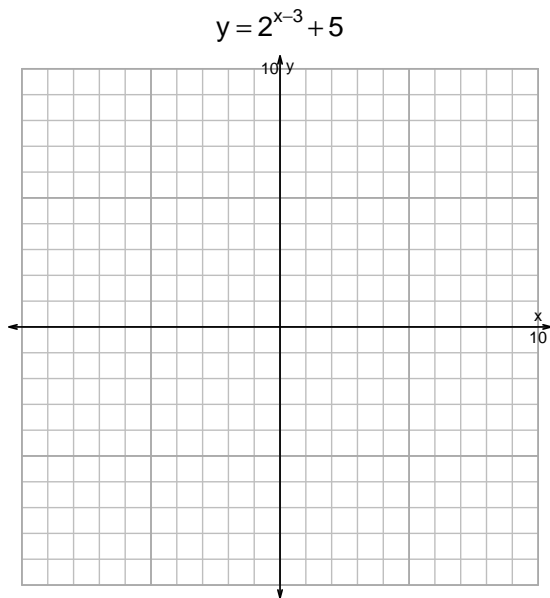
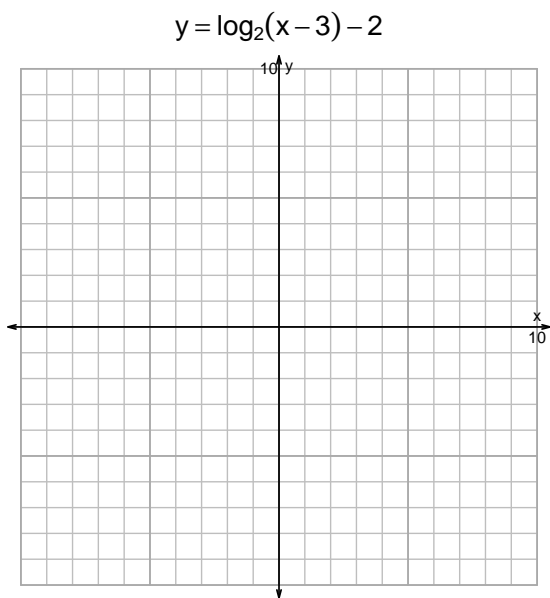


Name: \_\_\_\_\_

Date: \_\_\_\_\_

s18: EXP LOG (QUIZ v370)

1. (10 pts) Graph  $y = \log_2(x - 3) - 2$  and  $y = 2^{x-3} + 5$  on the grids below. Also, draw any asymptotes with dashed lines.

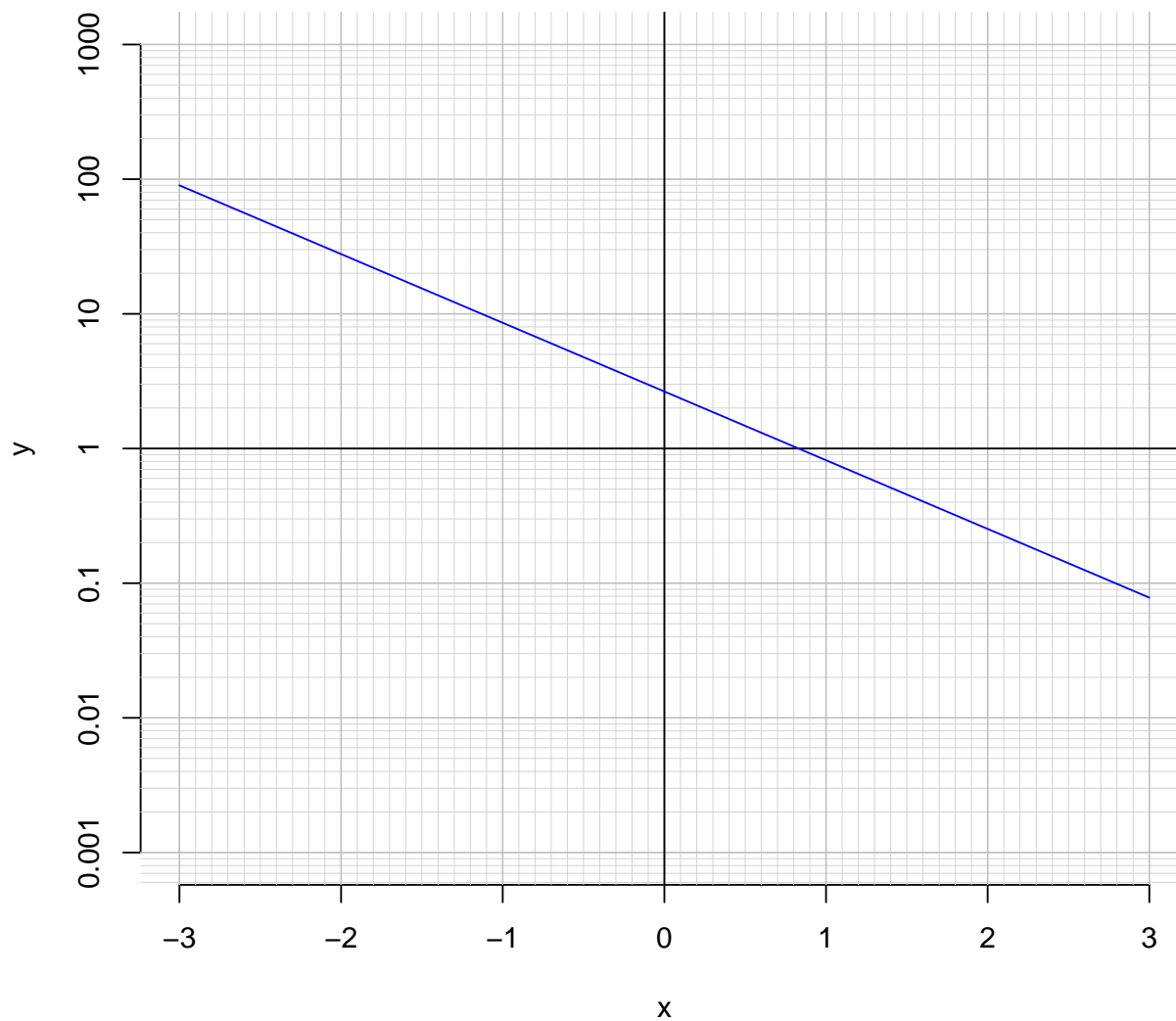


*Somewhat useful hint:  $2^3 = 8$ , and thus  $\log_2(8) = 3$ .*

2. (10 pts) Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression. Please do not do any arithmetic; just move numbers around.

$$-23 = \left(\frac{-5}{7}\right) \cdot 2^{-4t/3}$$

3. (10 pts) An exponential function  $f(x) = 2.65 \cdot e^{-1.17x}$  is graphed below on a semi-log plot.



- a. Using the plot above, evaluate  $f(2.2)$ .

- b. The inverse function is logarithmic.

$$f^{-1}(x) = \frac{-1}{1.17} \cdot \ln\left(\frac{x}{2.65}\right)$$

Using the plot above, evaluate  $f^{-1}(80)$ .